TCEQ CHEMICAL ANALYSIS LABORATORY REPORT

TEXAS COMMISSION on ENVIRONMENTAL QUALITY (TCEQ)

P. O. BOX 13087
AUSTIN, TEXAS 78711-3087

Handling Instructions: [x] Routine [ ] Urgent [ ] Priority (short half-life)
Purpose: [ ] Close Out/Groundwater Restoration [ ] Baseline (Pre-Operation) [x] Compliance
Sample Collected From: [x] Unrestricted Area [ ] Restricted/Controlled Area
[x] Radiological Analysis Also Performed **PCA #** **Index No**
Water only: [ ] Acidified [ ] Filtered [x] Not Acidified [x] Not Filtered

Contact: M. Abbaszadeh
Phone/MC: 512-239-6078 / 177
Submitter No.
Suspected Radionuclides: U-238, Ra-226

[ ] **Soil** **Type:** [ ] Sediment [ ] Vegetation [ ] Wipe [ ] Other

[x] **Water** **Type:** [ ] Monitor Well [ ] Baseline Well [ ] Surface Water [ ] Other **Water wells**

Facility Category: Uranium Recovery; Waste Processing; Low Level Radioactive Waste/Material; Buried Radioactive Waste; Mixed Waste Treatment Facility; By-Product Waste/Material; Other **Private water wells at Garcia Hill community**

Radiation Surveys Results: BKG: 6uR/hr Sample BKG
Sample Number 2 of 4
Sample location Active (working) well / Garcia #11
Operator / Facility **Not Applicable (NA)**
Permit/License No **NA**
Notes Sample was clear with no odor

I certify this sample was collected by me at 9 : 38 AM
on 12/20/12 and remained in my custody until
transfer to DSHS Lab
at 9 : 35 AM on 12/21/12
Signature: M. Abbaszadeh

I certify this sample was constantly in my custody from the time of
receipt listed hereon until transferred to DSHS
at 09 : 36 AM on 12/21/12
Signature:

I certify this sample was constantly in my custody from the time of
receipt listed hereon until transferred to _____
at _____ : _____ M on _____
Signature: _____

FOR USE BY LABORATORY ONLY

Laboratory Identification AC07094 A
EU
Date Received 12/21/2012
Condition of Seals
Comments
Wet (as received) Weight
Dry Weight _____ Ash Weight _____
Notes

MISC METALS

I certify this sample was constantly in the laboratory custody from the time of receipt and after the report date listed below until transferred to the TCEQ staff.

Signature and Title of Person completing this form
Evelyn E. Borjon Team Lead
JAN 18 2013 MP
Print Name/Report Date

INDICATE THE REQUIRED ANALYSIS BELOW
[x] **Total Analysis** [ ] **TCLP** [ ] **Dissolved Analysis**
Detection Limit Requested NA

(Arsenic)		mg/
Barium		mg/
Boron		mg/
Cadmium		mg/
Calcium		mg/
Chromium		mg/
Copper		mg/
Iron		mg/
(Lead)		mg/
Magnesium		mg/
Manganese		mg/
Mercury		mg/
(Molybdenum)		mg/
Nickel		mg/
Potassium		mg/
(Selenium)		mg/
Silver		mg/
Sodium		mg/
Vanadium		mg/
Zinc		mg/
		mg/
		mg/
		mg/
TDS		mg/
Alkalinity		mg/
Ammonia-N		mg/
Bicarbonate_		mg/
Carbonate_		mg/
Chloride		mg/
Fluoride		mg/
Nitrate-N		mg/
Silica_		mg/
Sulfate		mg/
		mg/
Conductivity		µS/cm
Specific Conductance		µS/cm
pH		Std. Unit

MC 1947
1100 West 49th Street
PO Box 149347
Austin, Texas 78714-9347

Texas Department of State Health Services
Laboratory Services Section
Metals Analysis Report

Tel. (512) 458-7587
FAX (512) 458-7757

DSHS Lab Sample Number: AC07094

Sample Type: Water

Submitter: TCEQ

Sample Location: Active well/Garcia Hill

Date Collected: 12/20/12

Date Received: 12/21/12

Digestion Method: EPA 3020A

Analytical Method: EPA 6020A

Report ID#: 20130103METALAC07094

Analyte	Results (mg/L)	Dilution Factor	Reporting Limit (mg/L)	Analysis Date	Analyst
Arsenic	0.00335	3	0.00100	12/28/12	HN
Lead	< 0.00300	3	0.00100	12/28/12	HN
Molybdenum	0.0839	3	0.00100	12/28/12	HN
Selenium	0.00765	3	0.00200	12/28/12	HN

Comments:

Team Leader Approval: Evelyn E. Borge

Date Approved: 1-03-2013

Date Reported: JAN 18 2013 MP

Texas Department of State Health Services Laboratory
Environmental Sciences Branch
Quality Assurance Report

Laboratory Case Narrative: The water sample identified below as AC07094 was collected on 12-20-2012. A single cube container of the sample was received by the Texas Department of State Health Services Laboratory on 12-21-2012. The sample submission form indicated that total analysis was requested for the sample.

The client requested analyses for arsenic, lead, molybdenum and selenium on the submitted sample. The sample was acidified on 12-21-2012 with 5 mL concentrated nitric acid. The pH < 2 verification was performed on 12-27-2012. The sample was treated as a batch throughout the sample digestion and analysis procedures. For the analyses of arsenic, lead, molybdenum and selenium, the initial sample volume was 50 mL and the final volume was 50 mL. The analysis was completed within the required holding times.

In order to match the 1% HNO_3 matrix for the ICP-MS calibration solutions, the sample digestates and batch quality control samples including the method blank were diluted by a factor of 3 with deionized reagent water during instrument testing. Serial dilutions of samples, if required, were made using a 1% HNO_3 solution. The dilution factors reported with the results for all analytes indicate the total dilution from the sample preparation and the bench analysis. The reporting levels shown in the quality control tables do not include dilution factors. The reporting limit for a specific result can be determined by multiplying the reporting limit (RL) for the undiluted sample by the dilution factor indicated for the result. The quality control exceptions are noted in the quality control summary along with the corrective action taken.

DSHS Sample Number	Operator/Facility	Sample Location
AC07094	NA	Active (working) well / Garcia Hill

Sample Batch ID	Preparation Method	Preparation Date	Analytes Tested	Analytical Method	Analytical Technique	Analysis Date
12-27-12 (3020A)	EPA 3020A	12-27-12	As, Mo, Pb, Se	EPA 6020A	ICPMS	12-28-12

Quality Control Results of Arsenic, Lead, Molybdenum and Selenium for AC07094
Analysis Date: 12-28-2012

Analyte	Method Detection Limit mg/L	Reporting Limit mg/L	Initial Calibration Blank (ICB) mg/L	Final Calibration Blank (CCB) mg/L	Initial Calibration Verification (ICV) % R	Final Calibration Verification (CCV) mg/L	Initial Reporting Limit Check (ICV-RL) % R	Final Reporting Limit Check (CCV-RL) % R	Interference Check Solution (ICS) AB % R	Method Blank (M-BLK) mg/L
Arsenic	0.000117	0.00100	0.000122	< 0.000117	91	96	107	100	96	< 0.000117
Lead	0.0000183	0.00100	< 0.0000183	< 0.0000183	96	99	102	99	99	< 0.0000183
Molybdenum	0.000214	0.00100	0.000270	< 0.000214	92	96	109	104	99	< 0.000214
Selenium	0.00115	0.00200	< 0.00115	< 0.00115	98	98	100	108	99	< 0.00115
Acceptance Criteria			< RL	< RL	90-110	90-110	70-130	70-130	80-120	< RL

Analyte	Laboratory Control Sample (LCS) % R	Sample Result AC07094 mg/L	Sample Duplicate Result AC07094 mg/L	Matrix Duplicate (MD) AC07094 % RPD	Matrix Spike (MS) AC07094 % R	Matrix Spike Duplicate (MSD) AC07094 % R	MS/MSD % RPD	Spike Target Concentration Level mg/L	Dilution Factor
Arsenic	91	0.00335	0.00344	2.7	101	101	0.3	0.150	3
Lead	97	< 0.00300	< 0.00300	NA	101	103	1.6	0.150	3
Molybdenum	96	0.0839	0.0837	0.2	106	104	2.0	0.150	3
Selenium	92	0.00765	0.00744	2.8	96	97	0.9	0.300	3
Acceptance Criteria	80-120			< 20	75-125	75-125	< 20		

Internal Standards Recovery for Analysis Date 12-28-2012

Internal Standard (Analyte)	Internal Standard AC07094 % R	Internal Standard AC07094 (MD) % R
Rh (As, Mo, Se)	94	95
Bi (Pb)	101	100
Acceptance Criteria	**> 70**	**> 70**

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. I affirm that this data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached deficiency reports. I further affirm to the best of my knowledge that all problems/anomalies observed by this laboratory, or if applicable, any and all subcontracted laboratories that might affect the quality of the data have been identified in the laboratory review checklist, and no information or data have been withheld that would affect the quality of the data.

Evelyn Boyer
Name (printed)

Evelyn E. Boyer
Signature

1/25/2013
Date

Team Leader
Official Title (printed)